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RHEUMATISM OF THE DIAPHRAGM—ITS PATHOGNOMONIC SYM-
TOMS AND TREATMENT.

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[Communicated for the Boston Medical and Surgical Journal.]

THE rarity of rheumatism of the diaphragm, and the want of a proper description of its symptoms by writers, very few of whom allude to it, induces me to give my experience *in propria persona* of this most painful and formidable of diseases.

Before the attack, my general health was good, unless the appearance of boils at different times, rheumatic stiffness, occasionally, in the external, spinal muscles, and an increased hepatic secretion, as shown by a yellowness of the conjunctivæ, a sallowness of the skin and greenish-colored passages, might be considered as evidences to the contrary. Excepting in the slight form just indicated, I had never been troubled with the rheumatism.

On the afternoon of Tuesday, the 20th of October, of the last year, I rode in a hired carriage, so poorly furnished with springs that a shock was given, both when the wheels struck an inequality and in the rebound. At the time, from several of the severer jolts, I experienced a painful sensation in the lower portions of the chest on the right side; and, on returning home, I began to feel, almost immediately, down the front portion of the spine, darting, lancinating pains; that, starting just within the clavicle, seemed to spread downward with a wave-like motion. These pains, which were aggravated by movements of the trunk, becoming more severe in the evening, I took the precaution at bedtime, from an apprehension that evil consequences might flow from this location of the disease, of bathing my feet in warm water containing mustard, and taking eight grains of Dover's powder, and also of furnishing myself with morphine pills. In the early part of the night the pain steadily increased in intensity, forbidding sleep, and denying me ease or comfort in any position; and then, about midnight, the same sensations were

felt extending forward from the spine along the diaphragm. The recumbent position could not now be tolerated, and, each moment, inspiration became more difficult, and attended with greater suffering. By 4 o'clock the struggle for breath was agonizing, and well nigh insupportable—respiration taking place, but imperfectly, by means of the upper ribs, the chest inflated, as in a full inspiration, by the spasmodically contracted diaphragm, and a sensation was experienced as though an infinite number of wires, extending from the margin of the ribs to the spine, were tightened to their utmost tension by a key. The lower part of the chest was immovably fixed, and the abdominal walls were hard, tense, and as inelastic as a board. In addition to the Dover's powder, I had taken a grain of morphine in divided doses, without producing the slightest effect; and, now, feeling that my brain was rapidly losing its equilibrium, from the effort at respiration and the anguish thus occasioned, I thought it was high time to have a clearer head, and steadier nerves to hold the helm, and steer the laboring ship through this terrible storm. I yielded myself, confidently, into the hands of my colleague Prof. Gilfillan, with the certainty that all would be done for me that professional skill could accomplish. The Doctor arriving a little before five o'clock, I told him that, from the location of the pain, and the peculiar symptoms attending it, the disease, in my opinion, was rheumatism of the diaphragm, and that, unless more powerful doses were given to relax the spasm, than I had hitherto taken, there could not but be great danger of congestion of the heart and lungs.

The doctor adopted my diagnosis, and kindly staid with me until the force of the disease was broken. He gave me ten grains of calomel, a quarter of a grain of morphine every hour, a teaspoonful of Hoffmann's anodyne, together with ten drops of chloroform every half hour, and ordered mustard plasters to the seat of the pain. After using, for a time, these prescriptions, each dose of which seemed to strike the points of constriction and spasm, a sense of relief began to be experienced, which, in three hours, was so marked that unconsciously I began to drop into a fitful sleep, a result too direct and prompt to be attributed to the morphine, of which only an additional half grain had been taken. Bolstered up in the sitting posture, I could now breathe gently without exciting spasm; but still the lower ribs were as immovably fixed, and the abdominal muscles as tense, as ever, and any effort to draw in the air more deeply, was checked by the same painful sensations experienced at first.

In the afternoon, when I was able to bear a more thorough examination, it was found that the vesicular murmur was scarcely audible in the lower portions of the lungs, and that there was a slight friction sound over the heart. Late in the evening, on attempting to urinate for the first time in several hours, a difficulty was experienced from an inability to force down, and during the night I had the same trouble in evacuating the bowels. The urine was slowly expelled

by the contraction of the bladder, and the faeces by that of the intestines.

On the second day, the spasm of the diaphragm had relaxed, allowing the air to penetrate to the lower lobes of the lungs, and the ribs to move more freely in respiration. The friction sound over the heart had disappeared, and also much of the hardness in the epigastric and hypochondric regions; but still I had to retain the same position in bed, had scarcely more power in voiding urine or faeces, could not draw a deep inspiration, and panted from the slightest movements. I could not yawn or sneeze, and my voice was very feeble. It was seven days before I could lie on either side, eight before I could sleep on one pillow, and ten before I could draw a deep inspiration without exciting pain and a feeling of constriction. In a week's time I began to sit up, but the nervous debility was most remarkable—panting, rapid breathing from walking across the room, or even from the exertion of dressing, a feebleness of voice, like that from relaxation of the vocal cords, huskiness and almost complete aphonia following any effort to converse with a friend, weakness of the optic nerves, so decided, that in reading for a few minutes the letters danced, were confused, and became blended in one undistinguishable mass. These symptoms gradually subsided, and were scarcely noticeable in two weeks; but for some time after this period, walking, or any other muscular exercise, caused hurried breathing and a sense of exhaustion, similar to what anaemic patients experience. There was a disrelish for food, and colombo and Peruvian bark failed to gain any response from the stomach. It seemed surprising that medicines, gastric and nerve tonics respectively, the representatives of their class, should so signally fail in their offices; and, after their faithful use for some time without benefit, I discontinued them, and took an ounce of Bourbon whiskey at dinner. This not only had an immediate and marked effect in restoring my appetite, and the functions of the stomach, but also in awaking the nervous energy, and in imparting tone to the nerve-centres. The instantaneous change was remarkable, and led to a prompt restoration to health, which has since been excellent.

Commentary.—To many it may appear an impossibility to have a spasmodic contraction of the diaphragm of the tonic character, however limited the period, since a forced inspiration would necessarily ensue, and expiration could not take place; whence the aeration of the blood would be interrupted almost completely. It is certain, that this condition cannot long continue, without seriously obstructing the circulation, and causing a fatal congestion of the lungs and cavities of the heart; but, that it may actually occur, I have had the most painful demonstration—the *argumentum ad hominem*. The inflated state of the lungs; the absence of the vesicular murmur throughout the lower portions of the chest, the respiration being effected by the movement of the upper ribs exclusively; the inability to yawn, sneeze,

or vomit; the tense, hard state of the abdominal walls; the want of any power to strain down to aid the bladder or intestines in expelling their contents, and the clogged, obstructed condition of the circulation, present an assemblage of symptoms, in my opinion, pathognomonic of this disease; and, if we add to these, the darting, stabbing pain from the spine to the margin of the ribs, on each effort to inspire, the diagnosis is certain, and the only doubt that could be raised would be as to the nature of the spasm. In the present instance it cannot be said positively, whether there was simply a tonic contraction of the diaphragm from the violence inflicted, or a spasmodic condition due to the rheumatic elements present in the system, which the jolting awakened into activity. Adopting the latter view, I would state, that my sensations enabled me most accurately to map out and localize the exact site of the disease. The causation was apparently an engorged and torpid state of the liver, which, by its increased weight through the succussion in riding, strained the fibres of the diaphragm and excited the rheumatic inflammation, the seeds of which had been lurking in my system for some time, as was evident from the occasional stiffness affecting the spinal muscles.

Dr. G. mentioned to me a similar case which he saw when a student. A woman laboring under an attack of inflammatory rheumatism was suddenly seized with the symptoms above detailed, a condition of things that was to him at the time perfectly inexplicable, yet under large doses of morphia after some hours she was relieved of pain, and made, eventually, a good recovery.

CASE OF SHELL WOUND.

[Communicated for the Boston Medical and Surgical Journal.]

MESSRS. EDITORS.—I have the honor to report to you a very interesting case of shell wound.

Private Benjamin D. Thayer, Co. D, 26th Mass., during an engagement with the enemy before Petersburg, on the afternoon of June 30th, was struck by a shell just above the knee-joint of the right leg, while in the attitude of stepping over breastworks. The shell did not explode, but passed up the thigh, crushing the femur to the upper third, then passed back of the trochanter major, and lodged under the gluteus maximus. I removed the shell (which was spherical case, weighing 12 pounds, and 5 inches in diameter) at 8 P.M. After its removal he seemed to rally, but died at 2 A.M., July 1st.

Your ob't servant, HORATIO N. SMALL,
Battlefield Hospital, 18th Army Corps, Surg. 10th N. H. Vols.
Near Petersburg, Va., July 6, 1864.

ON THE PROGRESS OF ANATOMY AND SURGERY DURING THE PRESENT CENTURY.

By WILLIAM FERGUSON, F.R.C.S., F.R.S., &c.

LECTURE L.—Delivered at the Royal College of Surgeons of England, in June, 1864.

MR. PRESIDENT AND GENTLEMEN.—When the honor was conferred upon me of being appointed Professor of Human Anatomy and Surgery to this College, I felt uncertain as to the manner in which I could best fulfil the duties pertaining to such an important office. Considering the vast fields of anatomy and of surgery which I had to choose from, the difficulty of selecting subjects for six lectures seemed far from great; yet reflection indicated that already the laborer had been at work. In most departments the harvest had been stored, and little remained to be gleaned or garnered which could possibly be put in comparison with the knowledge already in man's possession. To one who has been a laborer in our profession for well nigh forty years such a selection might at first thought seem easy. A teacher of surgery for more than thirty years might surely feel at little loss for material; but that very fact in a manner tells the real difficulty, for as a teacher one is necessarily in almost constant contact with the profession, and whatever he may have fancied new or of value has already been made public by the usual channels. In conversations with assistants and friends, in lectures, in the operating theatre, in the pages of public professional journals, in papers for Societies, in pamphlets, and even in portly volumes, the teacher of old standing and fair repute has already communicated his ideas to his professional brethren so freely and amply, that in his latter years he stands literally unburdened of all to which he may at any time have had original claim. It has been his glory to spread knowledge as readily and rapidly as it may have come within his own ken, and such originality as may have been his own has long since become the property of his profession.

The dilemma with me was that I had nothing new to say. More than twenty years' teaching in a London college and hospital theatre had in a manner "used me up," and, thinking of the kind of audience I might naturally expect within these walls, I had hesitation and doubt as to what might best suit the occasion.

Two courses came prominently before me. I might select a single subject, and say all about it that had been said before by others, and repeat or add all that I myself had said or thought further; or I might select several subjects in which I had myself taken special interest, or had peculiar opportunities of studying, and lay them before my hearers in such a way as to give the appearance of novelty and attraction to an audience assembled in the heart of London, and in the metropolitan abode of English surgery.

Of the two courses I have preferred the latter. If I have nothing to say that is new to my own mind, I may still labor, though in a

somewhat novel sphere, to impress such "truths as I have learned, from experience, to doubt where I have reason still to do so, and to venture such suggestions and forecasts of thought as may become one who has spent his whole professional life in teaching, and who now finds himself in the responsible office of Professor of Human Anatomy and of Surgery in this great corporation.

About the year 1825, when my first intimate connection with the profession began, there was a period of calm (at least that is my impression) such as had not been for many years, and such as none of the present generation have seen. There was nothing new in British surgery, and little from abroad to attract special attention. The great impulse given by Hunter and his disciples had become in a manner embodied with, or, as some might think, become the embodiment of the profession. On the continent, amongst surgeons Dupuytren stood supreme; whilst Graefe, Lisfranc, Larrey, Dieffenbach, and Roux were but a shade behind. The latter had written his celebrated "Parallel," and already Velpeau had indicated his growing worth. In America, the names of Mott and Warren were associated with the boldest deeds in surgery. Here, amongst ourselves, Home, Cline, Blizzard, Abernethy, Cooper, had passed away, or well nigh faded from the scene. The same might be said of Todd and Colles in Dublin. Crampton, Carmichael, and Cusack worthily held the highest places in that city; and Brodie, Travers, Wardrop, Guthrie, Anthony White, Key, Stanley, Green, and others yet alive, whose names and deeds inspire veneration, held sway in the great metropolis. In Glasgow, John Burns labored, I may say alone, in a field which had been previously occupied by himself and his worthy brother Allan. In Edinburgh, the reputation of the Monros gave high character to the anatomical and pathological aspect of surgery, and the family reputation was maintained by the third of the name. The brilliancy of John Bell had in the early part of the century given great *éclat* to the school (which was enhanced by his brother Charles, whose name may be honorably included amongst the worthies of London, at the time I speak of), and the solid worth of Benjamin Bell had given a high character to Edinburgh surgery.

About this date the field of surgical practice in the northern metropolis was held by gentlemen of high social and professional stamp, but they were neither professed teachers nor long-experienced hospital surgeons. Each had served a few years only as full surgeon in the Royal Infirmary. One (Mr. Wishart) had published translations of Scarpa's works on Aneurism and on Hernia, but others were unknown to more than local fame. From this list I may bring out and except the name of Russell, the author of an original and still standard work on Necrosis, and at that time revered as a surviving pupil of John Hunter. He was, moreover, the first professor of clinical surgery, and the only one bearing such a title in the United Kingdom. His position as a model surgeon was, however, by no means

prominent, and the "pure" surgery of Edinburgh (as the term goes) was little different from that which might be found in any of the large provincial towns in Britain. There was no chair of surgery in the University. That of the College of Surgeons (which was shortly after abrogated) was held by a clever man, whose health and temperament prevented him taking a foremost rank in practical surgery, and there seemed little hope for a continuance of the great reputation of this school, when suddenly there appeared on the scene three men, whose labors have added substantially to the renown of the Scotch school, and whose names will be imperishably associated with the history of British surgery. These men were, John Lizars, Robert Liston and James Syme. I trust that I may be pardoned for making pointed allusion to these surgeons, but as it was from them that I gathered many of my own early views in surgery, I should not wish this opportunity to pass without giving them that honorable mention which, in my opinion, they richly deserve.

Mr. Syme still lives in active manhood, with a world-wide reputation second to none amongst living surgeons. It is considered unbecoming to say that of one yet active on the scene which may be said in after years. Modern surgery owes him much, as I shall show in future lectures. Eulogy might seem to partake of flattery, and for my present purpose it may be sufficient to state, that at the date referred to, this gentleman evinced all that energy of character and aptitude for clinical teaching and for practice for which he has since become so distinguished.

Mr. Liston's fame at this date, particularly as an operator, was well nigh as great as at any period of his comparatively short but brilliant career. In after years his soundness as a pathologist became more conspicuous; and the numerous valuable preparations in the museum of this College which formed part of his collection bear ample testimony to the greatness of his doings in practical surgery. Both he and Mr. Syme had already published those remarkable essays on Amputation which, with the example set by their practice, went far to give that development to the flap operation since attained. Many circumstances contributed to give Mr. Liston early fame in Scotland. A well-developed frame, a broad forehead, a strongly marked handsome countenance, indicative of great courage and decision, and an eye of piercing brilliancy and great expression, at once impressed those who sought his aid with a conviction of his powers. With these were associated a hand alike marvellous for its great size, its silent expressiveness, its vigorous firmness, its lightness, and its dexterity. It was aptly said of it by a distinguished lay contemporary, the late Lord Robertson—"If hard as iron and true as steel in the theatre of operation, it is soft as thistledown when applied to the throbbing pulse or aching brow." The remembrance of that hand is still fresh on my memory.

Some early operations of great magnitude and comparative novel-

ty, aided by a certain amount of jealous opposition which merit is sure to call forth, brought Mr. Liston's fame impressively before the public; and among his achievements may be mentioned the successful removal of a scrotal tumor of more than forty pounds' weight—the first operation of the kind ever performed in this country—and successful ligature of the subclavian, which had been essayed in vain by Ramsden and others in Britain.

When personal recollections have passed away, there will remain much to associate Mr. Liston's name with surgery, but the greatest features of his teaching powers will be forgotten. With less than average facility of speech, he had a manner in all that he did before his pupils that produced the deepest impression; and there was a style in his operations which has had more influence in this department among a large number of pupils than has been produced, in as far as I can make out, by any other man in the history of surgery. Only those who have seen him can thoroughly appreciate what I now say.

Of Mr. Lizars there is now probably less known than of the two gentlemen just referred to; but his fame was great at the time. His folio work on anatomy, with which he incorporated most of his views on operative surgery, had contributed largely to his reputation. Initiated to the profession by John Bell, to whom he served a pupillage, he seemed to have imbibed some of the characteristics of that great surgeon. He was a very successful teacher, both of anatomy and surgery, an excellent pathologist, a brilliant and daring operator. His name will ever remain associated with the early history of modern operations on the upper jaw. He was the only man in Scotland who had placed a ligature on the innominate. The operation was unsuccessful; but it went far to prove, what was then not so well recognized as now, that secondary haemorrhage in such cases is more likely to come from the distal than from the proximal end of a tied vessel. He was the second to perform ovariotomy, and its practical originator in Britain. Like many pioneers in art and science, he was for this assailed by a certain amount of ridicule associated with vigorous opposition, and thus was thrown into abeyance an operation which, thirty years later, has produced as much excitement as has been associated with the early history of any great surgical proceeding. Whatever may be the fate of ovariotomy, the name of John Lizars must always remain associated with it.

I may be wrong, but the impression is strong on my mind, that an impulse to the more accurate study of surgical anatomy arose coeval with the development of the Hunterian operation. Before I knew the profession, all the great arteries had been tied, from the superficial femoral to the abdominal aorta and innominate, on the principles of our great surgical philosopher. The surgical anatomy of the arteries had occupied the attention of many first-rate anatomists of the early part of this century; and whilst the operations in question

were excitingly attractive, others were not overlooked, and hence surgical and regional anatomy took a wider field, and the works of Charles Bell, Abraham Colles, Astley Cooper, John Shaw, Hargrave, and of others, testified to the zeal and accuracy of surgeons in those times in anatomical pursuits having direct relation to their calling. It is an anecdote worth bearing in mind, that when Astley Cooper was engaged in his great and interesting labors on hernia, nothing would satisfy him but a sight of the fact that the obturator artery might encircle the inner side of the neck of a crural hernia. The first preparation that gave this proof was in the museum of the famous teacher of anatomy in Edinburgh, John Barclay (now incorporated with the collection of the Royal College of Surgeons of that city), who actually forwarded it to London to satisfy the hesitation of the great surgeon. It was returned with most complimentary thanks; and this anatomical fact, now familiar to the simplest novice, was soon after made extensively known to the professional world.

There were manuals of anatomy in those days, written by men who have since held the highest professional positions, which really left little for the practical surgeon to desire; in fact, the subject was in a manner exhausted. Whatever was essayed as novel, seemed in reality but a repetition of something already done and known; and, with an occasional exception, there was little left for the modern anatomist but transcendentalism and minute observation. Investigations on ill-defined and obscurely developed quantities have, I fear, taken largely the place of wholesome surgical anatomy; and whilst I shall not go so far as to say that they are not of great value to the education of the practical surgeon, I may state that I have often felt inclined to protest against a system which seems to draw little or no distinction between this kind of so-called philosophy and that common-place, but common-sense, anatomy which is of essential service to the practical surgeon. With some it almost appears as if the bulk of the two thousandth part of an inch were of equal importance to the surgeon as the outlines of the sterno-mastoid or deltoid muscles; and with many it seems to be that there is really little or no difference of essential value between "blastema" and bone, "molecule" and muscle, "cytoblast" and cellular membrane!—nay, actually that once familiar term is now in some degree tabooed, and a man's acquirements are suspected if he does not use instead the modern one of "areolar tissue."

In surgical pathology, it was known that a person might live with an obliterated aorta, and might survive the loss of an upper or lower extremity. Inflammation with denudation of bone was commonly believed to necessitate amputation; and diseased joints with ulceration of cartilages, particularly if denoted by crepitation, were generally deemed incurable, excepting by removal of the limb. Tumors of enormous size were frequently met with, and the disease then familiarly known as *fungus hæmatodes* was more common than

in the present day: in both instances doubtless from timidity on the part of those who feared to meddle with what the modern surgeon arrests in early progress. But a vast amount of important material had been accumulated by the practical men of the day, and the works of Lawrence on Hernia, Brodie on the Joints, Thomson on Inflammation, Hodgson on the Arteries, and Cooper on Dislocations, may be referred to as types of the most valuable and precise surgical pathology which had been given to the profession. Pupils and practitioners had for study and reference in surgery, and to some extent in anatomy, the standard works of Boyer, of Benjamin Bell, of John and Charles Bell, of Abernethy, and of Samuel Cooper, whose "First Lines" was for a long time the favorite text-book, and whose famous Dictionary has, perhaps, not been excelled even to the present day.

Some naval and military surgeons had contributed largely to our general knowledge. Besides the labors of Hunter and of John Bell in these departments, it is in accordance with the intended spirit of this lecture that I should refer to those of Veitch and Copland Hutchinson, of Larrey, of Hennen, and of Guthrie. Although I am myself disposed to take exception to some of the doctrines of these gentlemen as being invariably applicable to the practice of surgery in civil life, I willingly acknowledge the great merits of those who gave us so much information after the cessation of our wars with the first Napoleon, and that much additional material, of unquestionable novelty and value, has been added to our stores by the publication of the so-called military surgery of that eventful period.

In Smiles's "Lives of Engineers" a dozen or more of those who first worked in this noble science are told off, each with a brief, yet interesting memoir, comprised within a few pages; but as engineering has advanced in the progress of time, the works of Vermuyden and Myddleton, of Metcalf and Brindley, seem to be surpassed by those of Smeaton, Telford, and Rennie, until at last a whole volume is required for the life of the elder Stephenson. Were we to compute the progress of surgery in a similar manner, to what limit might the lives of great surgeons not go? To look within the present century, volumes might be written, in which most of the names already mentioned would stand pre-eminent, and it would not be difficult to mark out many of the living generation with whom the progress of surgery is closely associated. It is the boast of those who live in the nineteenth century, that progress in all that pertains to civilization has been greater than in any similar period in history. I cannot venture to claim for surgery the world-wide impression that has been made by steam, by electricity, by engineering, or by mechanics. Yet our art and science have not stood still. If there have been changes and reforms in our laws and civil institutions for the improvement of our social atmosphere (and who can entertain a doubt on the subject?) we may point to our changes, our reforms, our improvements also.

Few things have struck me as more remarkable than the simplicity of appliances and dressing in modern surgery among the best-class practitioners. This arises, I believe, from a better appreciation of the powers of nature, and a more humble idea of our own as to forcing that which can only come in time. It is perhaps in the increased knowledge and better treatment of wounds that the true philosophy of surgery has been most evinced in modern times. The days of the "secret dressings" and of "sympathetic powders" have passed away; and such a man as Colbatch, whom John Bell designated as a "respectable quack," or a pretender like Sir Keネlm Digby, were he even, like that famous man, secretary to a king, would have no influence on the profession and little on the public now-a-days. Yet Digby, had he belonged to our profession, would nearly have been a philosophic surgeon. If, after bringing the edges of a wound into accurate contact, and keeping them so by simple means, instead of affecting mystery and enacting the part of a mountebank, he had told his patient that he had done all that man could, and that nature and time would do the rest, he would have struck the key-note of that which constitutes, in my opinion, a great feature in modern practice. The secrecy and sympathy consisted, in reality, in simplicity; and it remained for John Hunter and for what John Bell called "the London school" to give us our present views on such subjects.

Professor Hughes Bennett, of Edinburgh, has in recent years insisted much on what he calls "rational medicine," the term evidently implying the existence of a converse practice. It is not for me, in my present position, to say much about the practice of physic, but I do not hesitate to say that there is room for "rational surgery" to make useful way. "I cure" or "we cure" is too much in our vocabulary; and it would be more in accordance with the knowledge we possess of nature's actions were we to affect less in this respect, whilst there is a broad margin on which the guiding head of the surgeon might take full credit. It has, indeed, been truly said that surgery is the handmaid to nature; and when the service is judiciously administered our work appears in the greatest perfection. Nature, in many of her inscrutable ways, does that which offends our common humanity; she brings us fevers, atrophies, consumptions, and cancers, over which we have but little control. Livingstone has told us that in parts of Africa where the lights of civilization have not yet appeared, most of those diseases which are at present the scourge of Europe have not yet been seen. May it not be that our boasted civilization has brought upon us many of those "evils" which, with a sort of negative consolation, we say, in poetic language, that "flesh is heir to"? Does not the very style of living interfere with nature's healthful actions in civilized man? Who in these islands can boast of success in lithotomy such as that obtained by our surgeons who practise in Asia? Were cases of elephantiasis scro

prevalent among us, is it likely that we could boast of saving twenty-two patients out of twenty-four operations? Yet such success has been recently recorded by Prof. Ballingall, of the Grant Medical College, Bombay. With all deference to our friends and contemporaries, it cannot be admitted that this success comes from superior skill or dexterity; it is from the subject on which they work—the nearest approach to perfect nature, irrespective of what we fondly call civilized habits.

In speaking of wounds, I should not be doing justice to my own views and experience, nor to the efforts of others, were I to omit reference to the more common use of stitches than was sanctioned some thirty or forty years ago. When early and perfect union is desired in a line of considerable length, they far surpass other methods, and when judiciously applied (possibly in many instances with a due share of additional support) they are of the utmost value. Throughout my experience I cannot say that I have seen the slightest evil arise from them, whilst the best possible good has often been derived. In fact, some of the greatest triumphs of modern surgery are associated with this simple mechanical process; for how else could so much have been done with those vesico-vaginal fistulae which so baffled our forefathers, and are now so amenable to skilful operative management? How else could the operation for cleft palate have been successfully accomplished? How else could we have dared to lay open the walls of the abdomen to the extent of six, twelve, or fifteen inches? Much has been said in recent times of the superiority of the wire over thread as the material for the stitch; but for my own part I deem the subject of comparatively little importance, whilst I do not hesitate to proclaim my preference of common silk thread for general use.

Until within the present century there was no positive remedy for stone in the bladder but a painful and dangerous cutting operation. The highest talent, skill, and manipulative dexterity have been evoked to set aside the dangers of that proceeding. Surgeons have cut twenty, thirty, fifty patients, losing perhaps only one; but a more extended experience has had the effect of bringing the average of fatality down to the certain loss of one in six or ten. Men have vainly prided themselves on their success—some because of the peculiar shape of a knife; some on the supposition that they have operated more dexterously than others; and superior success has even been claimed on account of a special prayer and appeal to the Almighty just before commencing! We know full well how in the mysterious ways of Providence man's best efforts have failed; his holiest aspirations have seemingly been thwarted.

Happily we of the present day have lived to see the perils and uncertainties of lithotomy set aside in a large number of instances by the less formidable and possibly more successful proceeding of lithotrity. The development of this operation has been within our

own time. It is of foreign origin, and British surgeons have taken slowly to it. Until within these twenty years it was practised by few, but latterly it has come into more general use; and if patients would but apply at an early date, when the stone is small, the judicious employment of this operation would go far to supersede the use of the knife, and make lithotomy exceptional. As evidence of the high and useful character of the operation, it has been applied alike to the peasant, the artizan, and the wearer of a crown. Whilst we do all honor to the labors of Gruithuisen, Le Roy, Heurteloup, Costello, and especially Civiale, in developing this proceeding, it is worthy of note that the essential features of the instrument now in use—namely, the male and female blades, with the sharp curve at the end where the crushing is to be effected, and the screw force for that purpose—are of English origin, having been devised by the late Mr. Weiss, our celebrated instrument maker.

For my own part, I am almost disposed to consider that the treatment of distortions by divisions of tendons, muscles, and fasciae—a treatment founded on a better appreciation than formerly of anatomy, physiology and pathology—constitutes perhaps the most striking example of modern improvement which I could bring to your notice. I take great pleasure in referring to a case, treated by one of our provincial surgeons—Dr. Wiblin, of Southampton—who in the discharge of his duties, like many others of his fellow-laborers, undertakes the treatment of most ailments that come within his cognizance with energy, skill and success, such as may well be admired—possibly envied—by his metropolitan contemporaries. Cutaneous puncture and subcutaneous division with a narrow blade, so as to prevent the access of air, make Stromeyer's name worthy of honor in all time to come; and the development of the new tendon in some of these cases is a fine illustration of what Nature will do where man judiciously interferes with some of her imperfect works.

How hopeless was our practice for strabismus in former times! We neither knew the cause nor the means of cure. In the generality of such cases the division of the internal rectus of the eye restores the symmetry of these important and attractive organs. Here the simplicity of the idea almost leads us to overlook its magnitude and scientific character. The illustrious Roux thought his achievement great when he could close by operation the cleft palate as if it were a hare-lip, and be successful in securing union in two cases out of every three operated on. It is my intention to show you in some future lecture how, by division of the levator palati on each side, the operation may be rendered almost as certain in its results as that for fissure in the lip, and that the average of failures is about 1 in 27 or 30.

The skill with which raw surfaces are made and approximated says much for modern progress. Our plastic operations are more marvellous than ever entered the imagination of Taliacotius or the

poetic mind of Butler. The almost fabulous transplanting of one part of the body to a distant surface has been realized. The skin on the back of the neck has been lifted forward to supply a deficiency in front, and a portion of the skin of the abdomen has actually been made to do permanent duty on the forearm. Amongst plastic operations, and as illustrative of the value of union by the first intention, I may here refer especially to reparations on the face, and to the closing of wounds and unnatural openings in the urinary organs and parts of generation, particularly in the female. A word of praise in these departments is justly and specially due to our Transatlantic brethren, and amongst ourselves there are many whose triumphs in these cases do the utmost credit to modern surgery.

The application of the stethoscope to surgical diagnosis, the exclusive use of the microscope in pathology, the invention of the laryngoscope and its recent application in practice, are all interesting features in modern surgery. The ophthalmoscope, too, is one of the most ingenious and clever inventions for which surgery is indebted; nor can there be a doubt that, in special cases, the speculum is also of vast service. But I must leave it to greater enthusiasts, and those more skilled than myself, to dilate upon the marvels divulged by these instruments, and to fix upon their relative value as additions to the surgery of the present century.

Ophthalmic surgery has made wonderful strides within our own time; but I do not profess myself competent to dwell on such a theme. It is pleasing to see that those who excel in this department, particularly amongst ourselves, are gentlemen who, from their education and competency, are fitted to hold the highest places in general surgery, and that many of them have held, and now hold, the foremost rank in our profession. Let me here express a hope that some future professor in this chair may be able to say as much for all who may devote themselves to the specialties of modern custom.

Excisions, or resections—the words seem synonymous—have claimed a large share of modern attention; for although we owe to the last century many such proposals and several examples, it is within the present that much has been said about them. But time presses, and I shall conclude my present address by reference to some matters which need not be dwelt upon in other lectures. Of these, that of anaesthesia may be deemed the most remarkable. No single appliance in surgery can, in my opinion, be compared with it; for, although before its discovery most, if not all, of the great achievements of our art had already been accomplished, the amount of suffering which can now be set aside enables us to relieve surgery of much of its horrors, and to exclude from the patient's senses that which was anguish, suffering and torture; whilst, generally, it permits the surgeon to perform his duty with a serenity of thought and action quite unknown to his predecessors. On this subject America

again must have the palm of precedence. There sulphuric ether still holds the first place as the anaesthetic agent; whilst with us chloroform, whose influence was first observed and made public by one of our contemporaries, is considered the most useful. Not long ago Dr. Marion Sims, with laudable enthusiasm, claimed for metallic stitches the honor of being, in our profession, the greatest discovery of the nineteenth century. Few surgeons of practical experience, however, will endorse this. I see nothing which has transpired in the present century which, in magnitude or importance, can compare in our annals with anaesthesia; and, in my mind, it ranks in value to mankind scarcely less than the results of the labors of Harvey and of Jenner.

We congratulate ourselves that we have been permitted to live in times when man has displayed his mastery over steam and electricity, and with us and our special profession there have been agencies at work whose usefulness may be said to be literally beyond calculation. I allude to the improved facilities for education, to our social professional customs, to the medical press, and our own special literature. Our schools have increased in number; our great public hospitals associate, more extensively than ever, education with charity; our handbooks, our works of reference, our means for learning, our appliances for teaching, are beyond compare; and facilities for studying anatomy have, by a wise legislation, been placed lawfully within reach. Our societies and professional gatherings have encouraged and facilitated the diffusion of knowledge: man meets man face to face; thoughts flash almost simultaneously from brain to brain; and there is no longer a difficulty with those in places distant from a metropolis to find out even some roundabout way of communicating interesting or useful knowledge to the profession. A surgeon to a Liverpool hospital in the present day need not, as Park did in 1782, address himself to a leading hospital surgeon in London to give currency to his aspirations; nor need the Moreaus of our day keep their originality under the "cold shade" of an academy or a corporation. Besides the facilities for individual and independent publication, there are our quarterly, monthly, and weekly journals to carry knowledge to the ends of the earth. We pride ourselves in this country on the liberty of the press; we fondly call it our fourth estate; politically and professionally it may be called the pulse of the public mind; and amongst ourselves in our own time it beats with a healthy vigor, indicative of all those changes for the better which I have endeavored to sketch, although I fear but feebly, within the limits of a single lecture.—*London Lancet.*

NEW APPLICATION OF CHLOROFORM.—M. Graw, a French physician, proposes to destroy the taste of intensely bitter medicines by mixing chloroform with them in certain proportions.

THE BOSTON MEDICAL AND SURGICAL JOURNAL.

BOSTON: THURSDAY, JULY 28, 1864.

THE SCHOOLS OF BOSTON.—We have again and again expressed our opinion in relation to the system of over-study pursued in our public schools, and we believe that most physicians agree with us in our condemnation of this murderous policy upheld by the city in spite of continued remonstrance. So strong was the feeling in the profession just before this all-absorbing struggle for liberty and nationality drew its attention away from home affairs, that the matter was discussed at several meetings of our District Medical Society, and the almost unanimous opinion prevailed that the present system of school instruction was ruinous to the health of the children of Boston. There is probably not a physician in the city who has not occasion every year to insist upon the removal from school of boys or girls who are breaking down under mental over-work. One of our daily journals, always most interested in matters of education, appeared with a most appropriate leader on the morning of the recent annual school jubilee, from which we give the following extract, and which we would like to present to our readers in full. We hope that the public press will not let the matter rest here, but will continue to remind our community that it is one of far greater importance than an unpleasant odor, which excites popular indignation to a white heat, and one, moreover, which should not be trifled with longer.

We cannot agree with the *Advertiser* on one point, however. It exempts the School Committee from blame, so long as it "executes but the public demand." It seems to us that the Committee is almost wholly responsible for the evil. In the effort made by the Suffolk District Medical Society above alluded to, the numerous individual instances of grave disease, cited by physicians as evidence of the injurious working of the school system, were always answered by the Committee with the argument that study was forbidden out of school, and that if parents allowed their children to transgress these rules to the detriment of their health, they alone were responsible. The absurdity of such a statement is openly apparent. The Committee sets up a standard of requirements, which are and can be fulfilled only by the most strenuous mental exercise on the part of the pupils, who are stimulated by rivalry and ambition up to a pitch of intense nervous excitement as the time for the distribution of rewards approaches. We would like to know how many of the present list of medal scholars there are who have not studied at home every day for months? How can it be otherwise when probably not ten out of the graduating class at Cambridge could pass the examination required at the Normal School? No wonder that those who stand highest among its graduates leave it pale and thin. What folly, then, for the School Committee to attempt to transfer the responsibility of its own acts to the misjudged ambition of parents.

"Leaving the system, to discuss the present tendency in practice of the schools, it is evident that careful parents, who care more for

the health of their children than for their laurels, more and more regularly attempt to withdraw them from the public schools. For reasons of which we shall speak, the boys escape the ordeal much more successfully than their sisters. But that is only a rare exception. When do we find any skilful physician entrusting his daughters even to the best public school? Yet there is virtually no choice. The private schools are worked at as high a pressure. Their teachers are intelligent enough to regret it, as are their fellow-laborers who work for the public, but that vitiated public sentiment or public indifference which mistakes book-learning for wisdom, drives them up to the over-work which, with very few exceptions, is the vice of our whole system.

"On the other hand, we constantly hear of children withdrawn, where the direction of the physician is the reason assigned. The strain on the whole system is so severe, just at the period of life when the physical functions should be gaining strength, that a medal or a diploma is rightly considered poor pay for epilepsy, for dyspepsia, for typhoid fever, or for pulmonary disease.

"The boys, as has been intimated, take this thing a good deal into their own hands. But girls cannot 'go into water,' cannot play cricket on the Common, cannot form drill clubs; and yet, though the earlier development of women makes it specially necessary that we should relieve them earlier than boys from school, by a sort of fatality we pile upon them a mass of additional sciences which the boys, by some good fortune, escape from. At fourteen, most of the boys throw the whole thing up. Their wages are worth something to their parents, or they themselves decline to have anything more to do with the public schools. Four or five years are left them, therefore, to renew or to create physical vigor before the age of growth is over. The girls, at the same age, are at the most critical period of life. The body is growing most rapidly, its functions are undergoing the most critical changes; its organs are adapting themselves to the necessities of womanhood—and yet at that precise period it is, that we say the rest of the body may look out for itself, but that what we care for is brain, and nothing but brain. The blood shall feed the brain with such nutrition as it can give, and all the rest of the system may go. Still we will not give appetite enough to endow the blood tolerably; for we will not give air or exercise enough to create a healthy appetite. We will have girls who can explain to us the binomial theorem; who can tell us how many metaphors there are in the 'Bugle Song,' and how many metacarpal bones they have. If they can do this, it is no matter, we say, whether their metacarpal bones can sustain the weight of a pail of water, or whether they themselves are ever fresh enough or free enough to have written for themselves a 'Bugle Song.'

"Now this becomes a serious matter—when, as a generation passes, we find that half our young men are exempt from bearing arms by physical weakness, and that half our young women, in what was once the prime of life, are confirmed invalids. It is a serious matter, when for the class which graduates this year at the Normal School, we find that there is another class, as large, of those who have dropped out by the way, unable to bear the high pressure of the Grammar schools and of the Normal. Such facts of themselves show that the practice is as disastrous as the system is absurd.

"The truth has been substantiated in the science of education, that growing children acquire as much in three hours' daily study as they can acquire in a day. On this truth, any true system must be founded. Beyond this period, the 'power of acquisition,' as the English teachers call it, is at an end. If, then, we keep the children in school more than for three hours of study, it is for our convenience, not for their instruction. It may be desirable to assign an hour or more for recitation beyond these three hours; but let it be remembered by all parties, that that is for the convenience of the public, or to satisfy the tax-payer's passion for paying, or to keep the homes of the parents quiet. Let no one pretend that the benefit of the scholar is involved. The true amendment, as we believe, of the folly of the last generation, which has now about run its course, is to be found in some respect for this central truth in education. Let some spirited man of sense in the School Committee move a reduction of the term of school to four hours a day. He will be met with a howl, as if he proposed to set fire to all the school houses. But let him grimly persevere, let him lighten up his argument with cheerful instances of dropsy on the brain, of sleepless nights, of early insanity, and of the rest on the dark side of that medal whose obverse bears Franklin's smile. Let him urge this steadily for a year or two, till some one proposes a compromise on five hours. Let him then begin again with a proposal for three hours daily, and go through the same ordeal till we have come down to four. Four hours, three for study and one for recitations, with proper recesses, and with no evening lessons, would teach the children all that they learn now, and would give them some chance to be strong and wise as well, where now we are satisfied if they are learned.

"It is with some regret that we throw in our protest in the midst of a holiday. It is because this is the only day when the public care for the schools, that we do so. The teachers are not to blame. They see with agony the work of the system. But each of them says that his particular school must keep pace with each other school in the multitude. The School Committee are not to blame, so long as they do but execute the public demand. It is the public which must be taught, that nothing is gained by the high-pressure system; that home-quiet is dearly purchased, when school-confinement drags down the vital power of children, and that the best authorities on education in the world unite in protesting against such confinement and stimulus as are practised in our schools."

THE ONONDAGA INDIANS.—Dr. Jonathan Kneeland, of South Onondaga, N. Y., where the Onondaga tribe of Indians have had their home since the earliest records, gives, in the *American Medical Times*, some interesting particulars respecting the decline and apparently approaching extinction of this once powerful tribe of aborigines. During the American Revolution they could raise 3,000 or 4,000 warriors; whereas now, they number only about 300 souls. Smallpox at different times has carried off large numbers, and within the last thirty years has probably decimated the tribe. Vaccination has been practised only within the last six years, and but to a limited extent. Syphilis assumes worse forms than among the whites. Scrofulous and

pulmonary diseases are common, many young men and women dying of the latter. Syphilitic and scrofulous maladies carry off many children during the teething months. Marriages take place at an early age, women are desirous of a numerous offspring, and abortion is seldom purposely procured. The ratio of infantile mortality is very large. The degeneration and wasting away of the population seems caused in part by the practice of intermarrying among themselves, as occasional marriages with distant tribes produce children healthier than those of the native-born, but marriages with whites do not have this effect. The amount of medical knowledge among them is very small—a few vegetable remedies being all the medicine in use, and there is an entire absence of any skill in surgery or midwifery. Grave operations, performed among them by white surgeons, are not well borne. Distorted and deformed limbs are common, many of which, by proper and early treatment, might have been prevented or relieved. Dr. K. has used the forceps in three midwifery cases within the last seven years. In one of the cases the patient left her bed of husks and quilts on the ground, immediately after the operation, while the doctor was washing his hands in the snow at the door, and was found on his return seated on a bench with the other squaws on the further side of the cabin. Epidemics of scarlatina, smallpox, measles, brain fever, or cerebro-spinal meningitis, are more fatal with these Indians than with whites generally.

HARVARD MEDICAL SCHOOL.—The following is a list of the gentlemen who received their medical degrees on the 20th inst., with the subjects of their dissertations:—

Names and Residence.	Thesis.
Elisha Wilbour Aiken, Roxbury, N. S.,	<i>The use of Dulcamara in the Treatment of Croup.</i>
James McGregor Campbell, Sherbrooke, N. S.,	<i>Diphtheria.</i>
John Dole, South Reading,	<i>Ammonia—its Uses and possible Abuses as a Therapeutic Agent.</i>
Samuel Holmes Durgin, Boston, Augustus Ebenezer Dyer, Natick, Michael Freeborn Gavin, Boston, George Howard Jones, Boston, Samuel Wood Langmaid, Cambridge,	<i>Typhoid Fever.</i> <i>Bright's Disease.</i> <i>Idiosyncrasy.</i> <i>Hernia.</i> <i>The Nature and Treatment of simple Fractures of the Leg, with a Synopsis of thirty-nine cases.</i>
David Francis Lincoln, James McDonald, Newport, N. S., John Brennan Moran, Boston, Charles Walter Swan, Lowell,	<i>Theory of Inflammation.</i> <i>Restorative Haematics.</i> <i>Diabetes.</i> <i>Uroxanthin.</i>
July 22d, 1864.	D. HUMPHREYS STORER, <i>Dean of Medical Faculty.</i>

FOREIGN INTELLIGENCE.—Prof. Langenbeck, Surgeon-General of the Prussian Army, has been allowed to visit the wounded German prisoners in Copenhagen by the Danish Government and to return.

Rudolf Wagner, the celebrated physiologist, whose death took place in May, was appointed Professor of Zoölogy at Erlangen in 1833, but was called to Göttingen in 1840. His reputation was in a great

measure made by the publication of his "Handwörterbuch der Physiologie," which, however, was only partly his own work.

The funeral of Prof. Oppolzer's wife was made the occasion of expressing the profound respect and love which is felt for this renowned teacher in Vienna. The heads of the University and all the students joined the procession, with funeral songs and torches, and the streets were thronged with sympathizing spectators.

Virchow, in the last number of his "Archiv," reports a case of trichinosis in Davenport, Iowa, as the first which has occurred in this country. The worms were discovered in the scirrhous breast of a woman after its removal, and a portion of the same was sent to him for examination. What is of chief interest in the case is the fact that the symptoms of trichina poisoning were noticed seven or eight years before the operation, and yet the worms were found alive.

Important data relating to the period of incubation of the poison of rabid dogs are given in the *Medizinische Jahrbücher*. The period was determined in 224 cases. In 40 cases less than one month; in 143 cases from one to three months; in 30 cases from three to six months; in 11 cases from six to twelve months.

The prize of 50,000 francs, offered by the Emperor Napoleon for the most useful application of electricity, has been awarded to M. Ruhenkorff for his induction coil.

Prof. Czermak, the eminent physiologist, has resigned his professorship at Pesth and returned to Prague, where has founded a private physiological institution and laboratory, and is about to publish occasional "Mittheilungen."

NOTICE.

It will be recollected that the subject of increasing the subscription price of the JOURNAL was brought to the notice of its readers before the commencement of the 68th volume, at a time when many of the newspapers and other periodicals of the day were raising their prices. It was decided, however, that the old terms should be continued, but that the number of pages in the weekly issues would probably have to be reduced, either occasionally or constantly. The price was accordingly continued, but no reduction in the number of pages has since been made. The time has now arrived when it is impossible longer to avoid the adoption of one or the other of these plans; and of the two, an increase in price is the one, we think, most likely to be satisfactory. This also conforms to the plan adopted by other medical journals of this country, and to that publicly agreed upon by the publishers of weekly periodicals in this country. After the termination of the current subscription year of each subscriber, therefore, our subscription price will be \$4 a year, and the same to all new subscribers after the 1st of August next, or the beginning of the 71st volume. We need not assure our readers that on our part we shall spare no effort to continue to make the JOURNAL worthy of their support. New subscribers for the current year from February last, will be charged but \$3.

VITAL STATISTICS OF BOSTON. FOR THE WEEK ENDING SATURDAY, JULY 23d, 1864.

DEATHS.

	<i>Males.</i>	<i>Females.</i>	<i>Total.</i>
Deaths during the week	53	45	98
Ave. mortality of corresponding weeks for ten years, 1853—1863,	42.7	37.7	80.4
Average corrected to increased population	00	00	88.49
Death of persons above 90	0	1	1

DEATHS IN BOSTON for the week ending Saturday noon, July 23d, 98. Males, 53—Females, 45.—Accident, 2—anæmia, 1—disease of the bowels, 1—Inflammation of the bowels, 2—disease of the brain, 4—bronchitis, 2—burns, 2—cancer, 1—cholera infantum, 23—cholera morbus, 1—consumption, 10—convulsions, 2—croup, 3—cyanosis, 1—debility, 1—diarrhea, 3—dropsey, 3—dropsey of the brain, 3—dysentery, 3—epilepsy, 1—erysipelas, 1—scarlet fever, 1—typhoid fever, 1—disease of the heart, 2—hernia (strangulated), 1—infantile disease, 1—disease of the kidneys, 1—disease of the liver, 1—congestion of the lungs, 2—inflammation of the lungs, 3—malformation, 1—marasmus, 1—measles, 1—old age, 2—premature birth, 1—puerperal disease, 1—sealed, 1—smallpox, 1—suicide, 1—unknown, 5.

Under 5 years of age, 55—between 5 and 20 years, 9—between 20 and 40 years, 16—between 40 and 60 years, 8—above 60 years, 10. Born in the United States, 77—Ireland, 17—other places, 4.

